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of the Date, I must beg Leave to refer to N°. 439 of the *Transactions* mentioned above. But as this Manner of writing the Four appears as antient as the Time of *Johannes de Sacro Bosco*, who died in the Year 1256, the Age of this *Irish* Date cannot so well be determined by that Figure, as by the Form of the Five, which follows it, and so exactly agrees with the modern Shape, that it cannot, I think, from any Instance I have yet met with, be justly deemed much older than the sixteenth Century.

Upon the best Judgment therefore, which I can form of these two Dates, from such Arguments as the Nature of the Subject admits of, it appears to me highly probable, that neither of them can be more antient, than the Times I have here assigned them.

Gresham College,
Feb. 21.
1744-5.

J. Ward.

XIV. *A Letter from the Reverend Henry Miles, D. D. F. R. S. to Mr. Henry Baker, F. R. S. of firing Phosphorus by Electricity.*

Dear Sir,

Read March 7. 1744-5. **I**T came into my Head last Night, to try whether the *Effluvia* of an excited glass Tube would not kindle *Phosphorus*; and, having been using my Tube for the sake of a little Exercise, I took a small Bit of about a Quarter of an Inch

Inch long, which has lain by me these ten Years; and having nothing at hand convenient for holding it, I roll'd it up in a small Piece of white Paper; and applying it to the excited Tube, it immediately took Fire, emitting a considerable Quantity of Flame and Smoke: After some time I quench'd it, by dipping it into Water, which was ready for that Purpose; and taking it out again without staying any longer than to be satisfied it was not on Fire, I applied it as before, when it suddenly took Fire, as at first: This I repeated in the same manner for six or seven times with the like Effect; tho' the *Phosphorus* could not be drained of the Water, especially as the Paper about it was wet.

The Room in which I made the Trial was not absolutely dark, having a dull Fire (tho' without any Candle): The Tube I use is about two Feet and a half long, the Diameter of the Bore nearly one Inch, the Thickness about one Eighth of an Inch, hermetically sealed at one End (which Sort are, by the way, most convenient for rubbing): The *Phosphorus* was held generally about five Inches from the Tube; but once or twice bringing it nearer, I could perceive a continued Ray of Light from the Tube to the *Phosphorus*. Some Occasions calling me away in the midst, I could not be more accurate; but I would not omit to tell you one Observation I made, upon pretty smartly exciting the Tube, that the Coruscations of Light were larger, more substantial, and of a more regular Form than I had ever observed them before, This happen'd, not when the *Phosphorus* was applied, but in the Intervals. Whether any of the Fumes of the *Phosphorus*, which remained in
the

the Room, might contribute hereto, I cannot tell, tho' it is not very likely. I shall attempt below to give you, as well as I can, the Form and Size of the Rays of Light, as they appeared immediately after my withdrawing my Hand, without applying my Finger, as is usually done to produce the Snapping of the *Effluvia*. Tho' I never made many Trials with *Phosphorus*, yet as I am not insensible, that some solid Kinds of it will be inflamed by the mere Action of the Air upon it, when it is taken out of the Water in which it is usually kept; I was therefore minded to try whether the Air would have that Effect upon mine, and accordingly took it out of the Water, with a *Forceps*, and laid it down on a Shelf, so as nothing touch'd it but the Instrument which held it, but I could not perceive the least Glimmering of Light, tho' the Place was sufficiently dark, after it had lain there for the Space of half an Hour, which I thought long enough to satisfy me, that it was not kindled by the Action of the Air upon it in the above-mentioned Experiment.

If you have known this Trial to have been made by any one before, you will cast this into the Fire; and however believe, that I am, with very great Sincerity,

Dear Sir,

Your most affectionate,

and obliged humble Servant,

H. Miles.

See

See TAB. I. Fig. 5.

A. Represents the Tube which I held in my Right-hand, and excited with my Left, having on a Glove, which I find more convenient for me in rubbing it. I should observe, that my Method then was to rub it smartly for about half a score times up and down; and then giving it one brisk Stroke, beginning at the End from me, upon discharging my Hand quick from the Tube, the Corruscations of Light appear'd as mark'd α and β , both in Size and Form: Some Allowance may be thought reasonable to be made for one's Judgment in such a Case, the Motion being so very sudden, and the *Phænomenon* so soon disappearing. But I intend to repeat the Experiment whenever the Temperature of the Air shall be favourable, which I don't find it to be this Morning. I forgot to mention, that, during this Trial, I found the *Effluvia* troublesome to my Eyes to a great Degree, occasioning a very sensible smarting Pain, which did not go off for some time; tho' I never designedly brought the Tube near my Face. This was the first time of using this Tube.

XV. *An Observation of a Fracture of the Os Humeri by the Power of the Muscles only; by the late Claudius Amyand, Esq; Serjeant Surgeon to His Majesty.*

Read March 7. 1744 5. **T**HE outward Causes of Fractures not being sufficient to break or tear asunder the broken Pieces of a fractur'd Kneepan,
in

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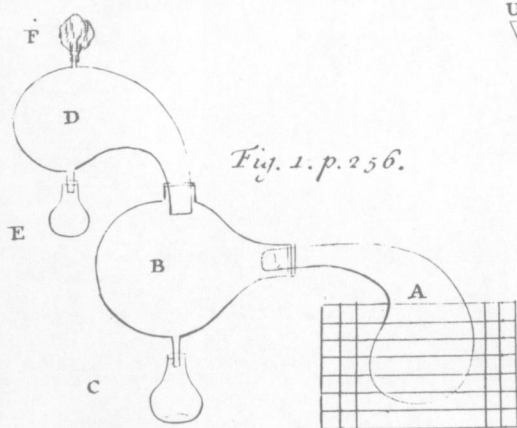


Fig. 1. p. 256.

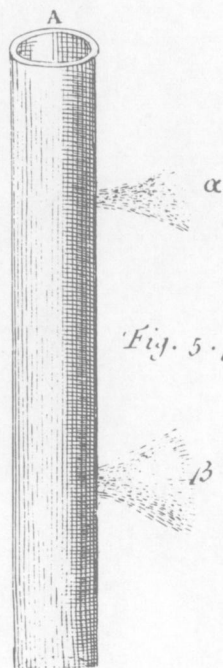


Fig. 5. p. 293.

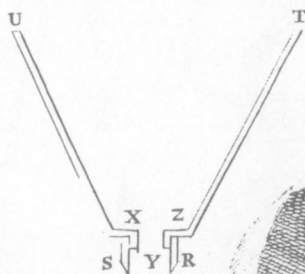


Fig. 6.
p. 315.

Fig. 8. p. 340.

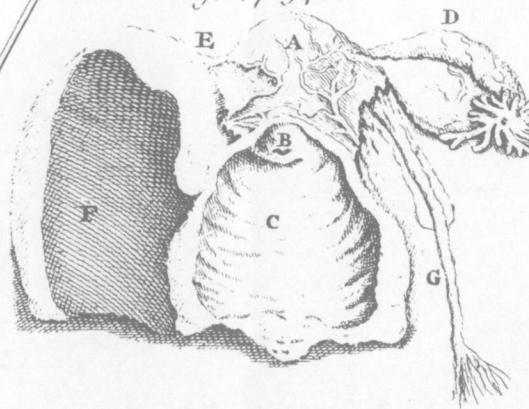


Fig. 2.

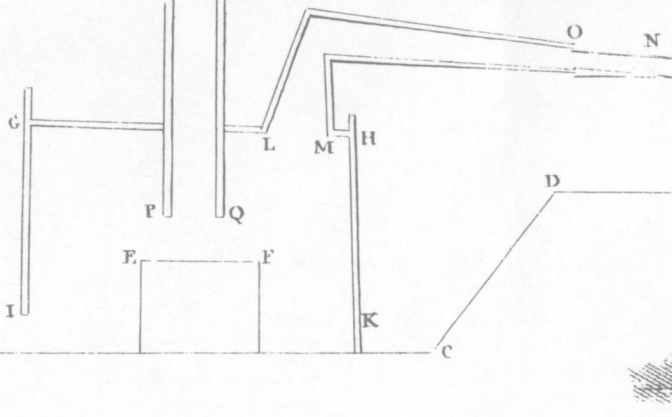


Fig. 3. p. 280.

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Fig. 8. p. 340.

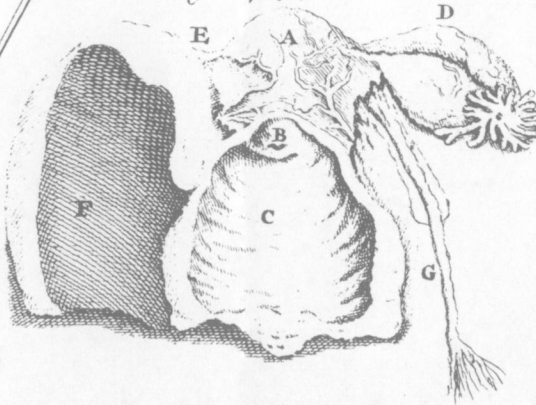


Fig. 4. p. 288.

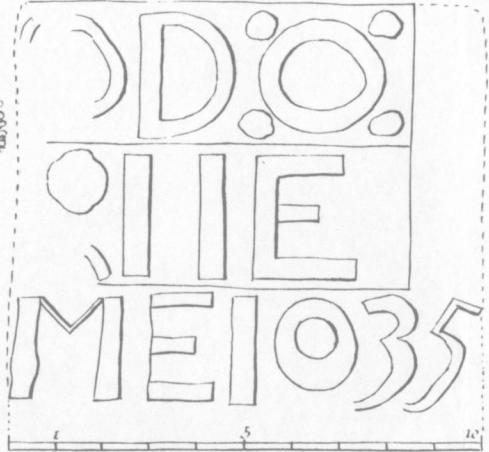


Fig. 2. p. 284.

A Scale of Inches.



A Scale of Feet.

Fig. 7. p. 333.

